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Edited by

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BULLETIN OF ZOOLOGICAL NOMENCLATURE

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PROPOSED CLARIFICATION, AMENDMENT AND EXPANSION OF THE PROVISIONS IN THE " RÈGLES " RELATING TO THE FORMATION OF THE NAMES OF FAMILIES AND SUBORDINATE CATEGORIES OF SUPRAGENERIC RANK : AN APPEAL TO ZOOLOGISTS FOR ADVICE

By FRANCIS HEMMING, C.M.G., C.B.E.

(*Secretary to the International Commission on Zoological Nomenclature*)

(Commission's reference Z.N.(S.)357)

(For the decision by the Thirteenth International Congress of Zoology that an investigation should be made in regard to this subject, see 1950, *Bull. zool. Nomencl.* **4** : 138)

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Introductory

1. The present paper is concerned with the question of the need for the clarification, amendment and expansion of the provisions in the *Règles* relating to the formation of the names of families and subordinate categories above the generic level. This is the second of the seven questions relating to the wording of the *Règles* which the Thirteenth International Congress of Zoology at its meeting held in Paris in 1948 considered required attention but which, in its opinion, needed further study before decisions were taken thereon; that Congress accordingly requested me, as Secretary to the International Commission on Zoological Nomenclature, to confer on this subject with interested specialists with a view to the preparation of a comprehensive Report, with recommendations, for consideration by the Fourteenth International Congress of Zoology when it meets at Copenhagen in 1953.

2. In the interval which has elapsed since the Paris Congress I have taken every opportunity which has offered itself to obtain the views of specialists on the questions which will need to be dealt with in any series of Articles which the Copenhagen Congress may decide to substitute for the admittedly incomplete and otherwise unsatisfactory provisions which at present appear in Articles 4 and 5 of the *Règles*. As already explained (1951, *Bull. zool. Nomencl.* **7** : 1-3) the stage has, I consider, now been reached when a general consultation is desirable in order to elicit the widest possible expression of opinion from interested specialists as to the action which it is desirable that the Copenhagen Congress should take in this matter in 1953. For this purpose I have prepared the present paper, in which I have set out the problems which, as it seems to me, will need to be dealt with; at the same time I have put forward various suggestions for consideration. The Report on this subject which I have been instructed to prepare will need to be written during the summer of 1952, in order that it may be published in the *Bulletin of Zoological Nomenclature* in plenty of time before the Copenhagen Congress. I hope very much therefore that Nomenclature Committees of Natural History Museums and other scientific institutions will be good enough to furnish statements of the views of their members on the issues involved and they will do so not later than 31st July, 1952. Similar statements from individual zoologists will also be greatly welcomed. It is particularly requested that all such statements may be furnished in duplicate, typewritten, double-spaced and on one side of the paper only. Every such communication should be clearly marked with the reference number Z.N.(S.)357. Owing to the great difficulty often encountered in deciphering signatures, the names of all signatories should be typed; particulars should be given in each case of the professional or academic post held by the signatory.

3. The two main groups of problem involved: Two main groups of problem are involved in the present inquiry. These are: (1) the conditions which should regulate the naming of families; (2) the question of the provision which should be made for the naming of taxonomic categories below the family level but above the genus level. The present Articles 4 and 5 deal only with the naming of families and subfamilies, but there are other groups, for example, tribes, to which names are commonly given. In the present paper, the position as

regards the naming of families and subfamilies is accordingly treated as constituting a single problem, while the question whether the same or similar rules should be introduced for the naming of other categories between the family and genus levels is dealt with separately at a later stage.

(a) The rules governing the naming of families and subfamilies

4. Formation of family and subfamily names The substantive French text of Article 4, as adopted by the Fifth International Congress of Zoology at Berlin in 1901, provided that family and subfamily names should be formed by the addition of the terminations "-idae" and "-inae" respectively to the "radical" (=root) of the name of the type genus. This provision was modified by the Eighth Congress at Graz in 1910 by the substitution, for the word, "radical" of the word "thème" (=stem). The first of these concepts is one of great intrinsic difficulty, it often being a matter of great doubt even to learned philologists what is the root of a given word. The provision that the "radical" or root of the name of the type genus should form the foundation of the names of families and subfamilies was therefore entirely inappropriate for inclusion in a code of rules to be used by zoologists, for even at the time when the present *Règles* were adopted and classically trained zoologists were both erudite and numerous, such a provision could not have been relied upon to produce unquestionably acceptable family names in every case. The decision at Graz to substitute the word "thème" for the word "radical" represented therefore a great advance, for it is far less difficult to determine the "stem" of a Greek or Latin word than it is to determine its "root." Even at the time of the Graz Congress this provision must have been a cause of difficulty to many zoologists, for already the decline in the knowledge of the Classical Languages was making itself felt and there were many zoologists who were unable to work out what was the stem of a given word without resort to some classically trained colleague. Over forty years have gone by since the Graz Congress and the process described above has gathered great momentum. As we have seen when considering the in some ways similar problem of the emendation of names (1952, *Bull. zool. Nomencl.* **7**: 12-13) there are today large numbers of zoologists, amounting, possibly, to a majority of the whole who either do not possess sufficient knowledge to enable them to correct misspelt words of classical origin or who find the task involved, irksome and difficult. If this is the case in regard to a relatively simple matter such as the spelling of words, it must be all the more so in regard to the definitely more difficult matter of ascertaining what is, or should be deemed to be, the stem of the name of a genus proposed to be made the type genus of a family or subfamily. The existence of this difficulty was recognised in Paris in 1948 both by the Commission and by the Congress, and the latter, on the recommendation of the former sought to provide a solution by declaring that in future "the expression 'stem' is to be interpreted as meaning either (1) the grammatical or classical stem or (2) a part of the stem, the choice to be made in favour of whichever of the foregoing methods both shows most clearly the relationship between the generic name on the one hand and the name of the family on the other and provides the simpler and more euphonious form compatible with that relationship" (1950, *Bull. zool. Nomencl.* **4**: 246). This formula was

devised partly to ease the burden imposed on the non-classicist by Article 4, partly for the purpose of promoting stability in nomenclature by preventing the changing of defectively formed but well-established family names. All will agree with the object which underlay the foregoing decision, but, as subsequent correspondence has shown—and as is indeed evident on further reflection—the particular solution selected is not satisfactory, for it lacks adequate precision and rests moreover upon criteria of a subjective character and is therefore incapable of securing final settlements as to the names to be given to families in the Animal Kingdom.

5. It must, therefore, I think, be agreed that some other method must be found for simplifying the task confronting zoologists when forming family names. For, serious and irritating as are the difficulties to the zoologist of today, those difficulties will, it may be expected, be virtually insurmountable for the zoologist of tomorrow. In view of the very large number of family names that have already been published, it seems inevitable that in its broad outlines the main feature of Article 4, namely that a family name is to be formed on the basis of the stem of the name of the type genus, must be maintained. The question to be considered is therefore how to make this provision as little onerous as possible, so far as the future is concerned, and how to secure the minimum amount of change, so far as concerns family names that have already been published in an incorrect form.

6. Suggested addition to the "Règles" of a Schedule giving guidance as to the method to be followed in determining the stem of a Latin or Latinised Greek noun : In Paris in 1948 the Commission and the Congress had under consideration the measures to be taken for enabling zoologists to ascertain the gender of nouns published as generic names, this information being required for the purpose of assigning the correct gender to adjectival trivial names. This problem is not dissimilar from that involved in the formation of family names, for in each case what is needed is a device to ease the task of zoologists not possessed of a training in the Classical Languages. The decision taken by the Paris Congress in the matter of the gender of nouns used as generic names (1950, *Bull. zool. Nomencl.* **4** : 249-250) may therefore offer a helpful suggestion as to the procedure which should be adopted as regards the formation of family names. That decision was that there should be added to the *Règles* a Schedule prescribing the gender to be assigned to the various classes of Latin nouns and Latinised Greek nouns, together with particulars of the better known of such nouns, the gender of which is different from that normally assigned to a noun of the class concerned, and that words should be inserted in Article 14 prescribing that the trivial names of species and subspecies, when adjectives, should be cited in the gender specified in the foregoing Schedule according to the gender of the word constituting the name of the genus to which they are assigned. In the difficult circumstances in which we now find ourselves, we should, I suggest, consider carefully the adoption of a similar course in relation to the formation of family names. What I have in mind—and what I desire to put forward for consideration—is that there should be added to the *Règles* a Schedule giving as precise guidance as possible as to the criteria to be adopted for determining the stem of a Latin noun or a Greek noun of each of the types

of names likely to be encountered. It is possible, no doubt, that such a list might not be absolutely complete at the outset, however great the care devoted to its preparation. Any case that might arise where the proposed Schedule failed to give the necessary guidance could however be met by submission to the Commission which, under the procedure laid down by the Paris Congress (1950, *Bull. zool. Nomencl.* **4** : 136-137), could render a " Declaration " as to the stem to be assumed for a word of the class in question ; the decision in any such " Declaration " would be automatically submitted to the next Congress, by which it could be inserted in the Schedule discussed above. The incorporation in the *Règles* of a Schedule of the kind suggested above would, I feel sure, be of great practical assistance to non-classically trained zoologists and would greatly simplify their task, both when judging whether existing names were correctly formed and, in particular, whenever they themselves had occasion to form a new family name.

7. Principles suggested for adoption in relation to family and subfamily names published prior to the date on which the revised scheme comes into operation : In the preceding paragraph I have suggested a possible means for simplifying the work in connection with—and, indeed, rendering quite easy—the formation of family (and subfamily) names published after the date on which the revised scheme comes into operation. There remains the problem of what should be done in regard to family and subfamily names published before that date. In the past, especially the more remote past, very many family names have been published which are unexceptionable in form, being correctly based upon the stem of the name of the type genus. Such names offer no difficulty and their position would be satisfactorily assured by a continuance, so far as they are concerned, of the provisions contained in the existing Article 4. In addition, there are however numerous family names, including some of great antiquity, which, when first published, were incorrectly formed. Of the names contained in this class, a considerable number have been emended, and of the emendations so published a large number has been accepted by specialists in the groups concerned, though there are some which have been accepted by some authors but not by others. Finally, there are, no doubt, some incorrectly formed family names which have not ever been emended. If we agree that the guiding principle should be to secure the incorporation in the *Règles* of provisions which will promote stability and render impossible the reckless changing of family names on etymological or philological grounds, the classes specified above will need to be dealt with in somewhat different ways. These are discussed in the two immediately following paragraphs.

8. Provisions suggested to be inserted in the "Règles" in relation to family names published prior to the coming into operation of the revised scheme, in cases where, prior to that date, no emendation of those names has been published : The suggestion which I desire here to put forward for consideration is that the revised scheme should contain a provision that no family name published prior to the coming into operation of the revised scheme, for which no emendation has, prior to that date, been published on etymological or philological grounds shall after that date be subject to emendation on the foregoing grounds. This general provision will give complete

security to all correctly formed family names published prior to the coming into operation of the revised scheme, and this is what everyone will desire. Unless qualified in some manner, a provision of this kind would give similar protection also to incorrectly formed family names published before the introduction of the revised scheme in every case where no emendation on the foregoing grounds had been made before that date. This also will, I think, in general, be in accord with the wishes of specialists. I have no doubt however that here and there will be found family names so badly formed that the general wish of specialists in the groups concerned will be that the name in question should be emended after the coming into operation of the revised scheme. * I suggest that provision should be made in the revised scheme to deal with such cases but I feel that it will be the general wish that this provision should be such as to make it impossible for any such name to be emended, except where the need for emendation is very clearly established. What I suggest is that there should be inserted here a provision on the lines of that which I have suggested should be adopted in a somewhat similar case in connection with the emendation of generic names and trivial names (see paragraphs 26 and 36 in my paper on emendations (1952, *Bull. zool. Nomencl.* **7**: 28, 38). Under the provision suggested it would be open to the International Commission on Zoological Nomenclature, on the receipt of an application from specialists, to direct that a family name published before the coming into operation of the scheme should be emended and to specify the spelling to be adopted; in such cases the Commission would be bound (as in the corresponding case relating to the emendation of generic and trivial names) to give public notice of the receipt of the application; it would be bound also, when taking decisions on such applications, to have regard, not so much to niceties of an etymological or philological character as to the need for maintaining stability and the general wishes of interested specialists.

9. Provisions suggested to be inserted in the " Règles " in relation to family names published prior to the coming into operation of the revised scheme in cases where emendations of those names had been published before that date: The class of case which we have now to consider is that of family names published before the introduction of the revised scheme in cases where those names have been emended on etymological or philological grounds before that date. The special point of difficulty here arises from the fact that in some cases the emendations that have been published have been accepted (for example in the butterflies, the emendation HESPERIIDAE is now generally accepted for the incorrect HESPERIDAE, formerly widely used), while other emendations have either not been accepted or have been accepted only by a limited number of workers (for example, again in the butterflies, the emendations NYMPHALIDIDAE and PIERIDIDAE for the familiar NYMPHALIDAE and PIERIDAE). As matters now stand, there is no means provided in the *Règles* for determining whether an emendation of a family name is correct or not, for the *Règles* contain no provision relating to the emendation of family names. It would be out of the question to provide that every emendation of a family name published before the introduction of the revised scheme should be accepted, for this would lead to the enforced acceptance of numerous emended names where the original unemended name is in general use and it is the desire of interested specialists

that it should remain in use. On the other hand, it is essential that means should be provided for securing a valid legal foundation for those emendations of family names made before the introduction of the revised scheme that are in general use. In this case also it is suggested that a solution should be found on the lines indicated for regulating the emendation of generic and trivial names. The suggestion now made is therefore that the revised scheme should provide that a family name published before the coming into operation of the revised scheme is to be deemed to have been correctly formed, save that, where prior to that date an emendation has been published for any such name, it shall be open to the Commission, on receipt of an application from specialists, to direct that that emendation or, if more than one emendation has been published, one of those emendations be accepted, in any case where the Commission is of the opinion that this is desirable in the interests of stability in nomenclature. The provision relating to the giving of public notice by the Commission of the receipt of such applications before decisions are taken thereon should, it is suggested, apply in this case also. As in the parallel provision which I have suggested should be inserted in the *Règles* in regard to emendations (1952, *Bull. zool. Nomencl.* **7** : 37), it would be desirable to insert a *Recommandation* urging authors not to discard an emendation in common use in favour of the original spelling until the question of the action to be taken has been submitted to, and settled by, the Commission.

10. Provisions suggested to be inserted in the " Règles " in relation to the formation of family names published after the coming into operation of the revised scheme : We come now to the question of the provisions to be inserted in the *Règles* relating to the formation of family names published after the coming into operation of the revised scheme. Here we are no longer concerned with the problem of maintaining stability in nomenclature, for the names with which we have now to deal, being new names, cannot by definition have gathered any body of usage around them. The consideration which is relevant for this class of name is the desirability of securing provisions which are both simple and automatic in operation. For dealing with this class of name, I suggest that a course should be adopted similar to that which was in fact adopted by the Paris Congress, when it established a Schedule containing rules for determining the gender of words used as generic names (1950, *Bull. zool. Nomencl.* **4** : 249-250) ; in other words, I suggest that, so far as concerns family names published after the coming into operation of the revised scheme, the rules in the Schedule relating to the stems of Latin words or Latinised Greek words used as the names of genera (the adoption of which I have suggested in paragraph 6 above) should be given mandatory force in relation to the formation of family names based upon the names of genera consisting of the words in question. Under this arrangement any family name published after the coming into operation of the revised scheme could be readily formed by reference to the Schedule referred to above ; any family name which nonetheless was incorrectly formed would be subject to automatic emendation to bring its form into agreement with the rules laid down in the Schedule. If this suggestion were to be adopted, it would be necessary (again following the precedent set by the Paris Congress when dealing with the gender of nouns used as generic names—see 1950, *Bull. zool. Nomencl.* **4** : 248-249) to add to the Schedule

discussed above arbitrary rules for determining what portion of a given word, not being a Latin word or a Latinised Greek word, when used as a generic name, is to be treated as constituting the stem of that word and therefore as being the portion of that word to which the termination " -idae " should be added, when that name forms the base of a family name.

11. Question whether the type genus of a family should be whatever is the included nominal genus which has the oldest available name : The present Article 4 lays down the rule that the name of a family is to be based upon the name of the type genus, but it contains no provision as to which genus is to be taken as the type genus of a family, when two or more genera are included in that family at the time when it is first recognised for taxonomic purposes. This ambiguity led in the past to two divergent practices in the naming of families : (1) The majority of workers regarded an author as free to select any genus to be the type genus of a family ; (2) other workers argued that, where two or more genera were included in a family the type genus of that family must be the genus which possessed the oldest available generic name. This ambiguity was resolved, so far as the existing Article 4 is concerned, by a decision taken by the International Commission on Zoological Nomenclature at its Session held in Lisbon in 1935, when it ruled (1943, *Bull. zool. Nomencl.* **1** : 35) that Article 4 does not require that the genus possessing the oldest available name should be the type genus of a family and this decision was later incorporated in the Commission's *Opinion* 141 (1943, *Ops. Decls. int. Comm. zool. Nomencl.* **2** :55-66), in which it was categorically stated that Article 4 was to be interpreted as meaning that " an author establishing a new family is free to select as the type species of that family whatever generic unit he considers the most appropriate." This ruling was expressly incorporated into the *Règles* by the Thirteenth International Congress of Zoology at Paris in 1948 (1950, *Bull. zool. Nomencl.* **4** : 138-139). There is thus no doubt at all what is the meaning of the *Règles* at the present time in this matter . In view however of the fact that the whole of the provisions relating to the formation of family names are to be reviewed by the Copenhagen Congress, it will be desirable to pause for a moment to consider whether the provisions set out above are the most appropriate for the purpose or whether any change is desirable. If we look at this matter from the standpoint of the need for promoting stability in nomenclature, it must, I think, be agreed that an intolerable disturbance in nomenclatorial usage and consequent confusion would follow the substitution for the existing provisions of a rule which would invalidate every family name where the author of that name had, at the time when he established that family, placed in it any genus having an older available name than the name of the genus which he selected as the type genus of that family. If we look at this matter from the taxonomic point of view, we are bound to reach an exactly similar conclusion, for it is clearly most desirable that an author establishing a new family should be free to choose as the type genus of that family whatever genus he may regard as the most representative of the group of genera placed by him in that family ; this would not be possible if an author were bound to take as the type genus whichever of the included genera happened to have the oldest available generic name, for there could be no guarantee that a genus having such a name would also be thoroughly representative of the concept

represented by the new family—indeed, such a genus might stand, as it were, on the edge and it might therefore be a matter of differing opinion among later workers whether that particular genus should or should not be regarded as belonging to the same family as the other genera concerned. In such a case all the other genera concerned (assuming that they were closely allied to one another) would be constantly being removed from, or replaced in, the family concerned, according to the way in which current taxonomic ideas varied. It is bad enough when (as now) this happens owing to an author having established a family upon a non-representative genus; it would be much worse if the *Règles* were to include a provision that this situation must arise whenever a non-representative genus is included in a new family and that genus happens by chance to have an older name than that of any of the other included genera. I conclude therefore that from every point of view, whether purely nomenclatorial or partly also taxonomic, the present rule that an author establishing a new family should be free to select whatever genus he considers the most appropriate to be the type genus is greatly to be preferred to a rule under which an author would have no choice but to take as the type genus of his new family whichever of the included genera happened to have the oldest name however inappropriate that selection might be.

12. Date as from which a family name should be deemed to have been published : We shall have to consider (in paragraph 16 below) what provisions it is desirable should be included in the revised scheme for regulating the relative priority to be accorded to family names in cases where specialists consider that two or more nominal families should be united on taxonomic grounds, but, before we do so, we have to consider certain rather serious difficulties which arise in determining the dates as from which many of the more long-established families should be treated as having been established. For many family names are at present accepted as from early XIXth century authors who were the first to recognise the need to accept supra-generic groupings for the genera concerned and applied terms to distinguish the groups so established but did not employ the termination " -idae " in forming the names or terms so devised. The question which thus calls for an answer is therefore whether a family is to be deemed to have been established and, in consequence, a family name published as from the date on which a Latin (or Latinised) term was first applied to a given group of genera, irrespective of the termination then employed for the term so used. Or should the *Règles* provide that a family name is to be deemed to have been published only as from the date on which an author recognised the concept of a family by applying to the group concerned a distinctive term having the termination " -idae " ? My own feeling is that as regards the past—up to at least (say) 1850—a rule in the latter sense would be too restrictive, for it would undoubtedly lead to the upsetting of a large number of existing family names which depend for their acceptance upon the assumption that they rank for priority as from some early date when a group term, based upon the stem of the name of an included genus, was first published by some author who did not however use the termination " -idae " in forming the term which he used for denoting the new group which he recognised. Moreover, it would, I think, be too restrictive to require, as regards names published in the early period referred to above, that the term

used to denote the new group recognised should have a Latin termination, for it is, I believe, the case that in numerous instances family names are deemed to have been first published as from the date upon which some French specialist applied to those groups terms which were based upon the names of included genera but for which (in the custom in France of that day) a French termination was employed.

13. I think that almost all zoologists will agree that the basic principle to be adopted in the revision of the present (ambiguous and incomplete) provisions relating to family names is the need for finding a scheme which will be satisfactory for family names published after the introduction of the revised scheme and will also avoid extensive changing of the names of families established before that date. In these circumstances I conclude that, as in other similar cases where the *Règles* have been clarified or expanded, it will be necessary for the revised scheme to include one set of provisions for the names of families established before a given date and another set of rules for those established after that date. The general rule would naturally be that a name is to be treated as having been published as a family name only when the term used for this purpose was formed with the termination " -idae." A provision of this kind would, I think, be perfectly safe, if applied retrospectively to names published as long ago as 1850 and in many cases also even beyond that date. In order however to avoid upsetting family names which are currently adopted as from various dates in the first half of the XIXth century—particularly such names which are reputed to date from the first three decades of the century—it would be necessary to include in the revised scheme a provision which would give a valid legal foundation to the family names belonging to this class, many of which are naturally (by reason of their age) names that have become extremely well known in the literature. It would not however be practicable to afford protection to such names by the insertion of a provision which dispensed with the requirement, in the case of a name published before 1850, that it should have been published with the termination " -idae " ; for this would admit to the status of a valid family name very large numbers of expressions used in a supra-generic sense in the early years of the last century which have never been accepted by later workers as having been published as family names. It is suggested that this difficulty might be overcome by the insertion in the revised scheme of a provision that a family is to be deemed to have been established, only when a name bearing the termination " -idae " has been published for the supra-generic group concerned, save that, in the case of families which prior to the introduction of the revised scheme have been treated as having been established by the publication before 1850 of a term not bearing the foregoing termination, it shall be open to the International Commission on Zoological Nomenclature, on receipt of an application from specialists, to direct that the family is to be treated as having been established as from the date of the publication of a term not bearing the termination " -idae." Such a provision would be in harmony with existing practice and would ensure against the risk of well-known family names being overthrown on purely technical nomenclatorial grounds. It is suggested that, if such a provision were to be adopted, it should be accompanied by a further provision regarding (i) the giving of public notice by the Commission of the receipt of such applications and (ii) the criteria to be

followed by the Commission in dealing with such applications similar to that which I have already suggested (see pp. 28 and 38 of the present volume) should be adopted by the Commission, when dealing with applications relating to the emendation of scientific names. It is suggested that, in order to minimise the risk of unnecessary name-changing, the *Recommandation* deprecating hasty action in discarding existing nomenclatorial practice pending a decision by the Commission suggested in paragraph 9 above should be extended to cover also cases where undesirable and unnecessary changing of family names as the result of the provision suggested above in relation to the termination to be used in order to qualify a term for acceptance as a family name might occur if existing practice were to be abandoned before the question at issue had been submitted to, and decided by, the Commission.

14. Priority to be assigned to a family based upon a given type species when the name of that family is changed because the generic name, on the stem of which that family name was based, is found not to be the oldest name applicable to that genus : The fact that family names have no separate existence of their own apart from the name used for the type genus at the time when the family in question was established gives rise to an awkward situation when later it is found that that generic name is not the oldest name objectively applicable to that genus. Article 5 provides that the name of a family is to be changed when the name of its type genus is changed, but unfortunately nothing is said in the *Règles* on the question of the priority to be assigned to a family name which is changed for the foregoing technical reason. The following is a representative example of a situation of this kind drawn from my own experience in the butterflies. In 1827 Swainson established a family based upon the nominal genus *Erycina* Fabricius, 1807, and accordingly applied the name ERYCINIDAE to that family. Later it was found that the generic name *Erycina* Fabricius, 1807, was invalid, being a junior homonym of *Erycina* Lamarck, 1805, in the Phylum Mollusca ; the generic name *Erycina* Fabricius was on this account correctly replaced by a substitute name *Riodina* Westwood, 1851. It was not however until 1895 that A. R. Grote changed the name of the family to RIODINIDAE, and it was another thirty years or more before the name RIODINIDAE succeeded in completely ousting the name ERYCINIDAE, for the family, the type genus of which has *Papilio lysippus* Linnaeus, 1758, as its type species. The question is whether the family typified by the foregoing species is to be regarded for the purposes of nomenclature as having been first established in 1827 when Swainson gave it the name ERYCINIDAE or in 1895 when in fact the name RIODINIDAE, the valid name objectively applicable to that family, was first published by Grote. The question is of importance, as we shall see when we come to consider the problem of the name to be accorded to a family when two or more of the included genera have been treated by previous authors as the type genera of families ; for in such a case (as is actually the position in the example cited above) the substitute name (in the present instance the name RIODINIDAE) would be the oldest available name for the family if it were to rank from the year in which it was given an invalid name (in the above case, the year 1827, when Swainson gave the family the invalid name ERYCINIDAE) but would not be the oldest available name if it ranked for priority only from the date on which the valid substitute name (in the above

case, the name RIODINIDAE) was published. On taxonomic grounds it would seem very objectionable, if, as the result solely of a nomenclatorial error committed by the original author, a family as typified by a given species (in the above case, by the species *Papilio lysippus* Linnaeus, 1758) were to be displaced in favour of some other family having a different type genus ; for the type species of the respective type genera might be only distantly related to one another (being referable, for example, to different subfamilies). The displacement of a family name in such cases would lead to a change in the taxonomic concept represented by the family in question, which would be objectionable and confusing and in addition might lead to an unnecessary and objectionable changing of names at the subfamily level. The general practice has, I think, been to treat such a genus as retaining its original priority, notwithstanding the fact that at some later date the actual name of the family and its type genus, but not its type species, have been changed for the technical nomenclatorial reason explained above. I recommend that provisions giving legal status to this solution should be included in the revised scheme.

15. Question whether the name of a family should be changed when the name of its type genus, though an objectively available name, is a subjective synonym of an older name applied to a different nominal genus : The question which we have now to consider is whether the name of a family should be changed when the generic name on which it is based is the oldest available name for the nominal genus concerned but is regarded by systematists (or by some systematists) as a junior subjective synonym of the name of some other nominal genus. To take a hypothetical example, let us suppose that in 1860 the nominal genus *A—us*, 1851 (type species: *X—us y—us*) is made the type genus of a family A-IDAE. Let us further suppose that at some later date a specialist in the group concerned comes to the conclusion that the nominal species *X—us y-us* is congeneric with the nominal species *M—a p—a*, which is the type species of the nominal genus *D—us*, 1849 ; he accordingly sinks the generic name *A-us*, 1850 (which is an objectively available name) as a subjective junior synonym of *D—us*, 1849. The question next to be considered is whether this later author should, on the basis of his subjective identification of the genera *D—us*, 1849, with the genus *A—us*, 1851, proceed to sink the family name A—IDAE and establish in its place the new family name D—IDAE. Cases of this kind are no doubt rare, and I cannot at the moment think of an example from my own experience ; the problem is however a real one and should clearly be dealt with in some way or another in the revised scheme. Judging by the well-known tenacity shown by family names which are objectively invalid for the reason that the family name ERYCINIDAE is invalid in the butterflies (see paragraph 14 above), I should think it likely that in the class of case with which we are here concerned a name such as A—IDAE would be likely to persist, even though some authors would reject that name in favour of the name D—IDAE. This is a subject on which the *Règles* at present give no clear guidance, for with the loose way in which Article 5 is drafted it must be a matter of opinion whether that Article applies to a case such as that exemplified above, where the only defect from which a family name suffers—if it is to be regarded as a defect—is that specialists or some specialists subjectively identify the type genus of that family with some other nominal genus (i.e. a nominal genus with a different

type species) having an older available generic name. It is likely that cases of this kind, when they arise, will differ considerably from one another in the extent to which specialists accept the subjective view that the two nominal genera concerned are identical with another. Thus, if the *Règles* were to provide that the name of a family was to be changed, whenever an author subjectively identified its type genus with some other type genus having an older available name, it would be impossible to secure stability for the name of the family concerned. The position in this matter would be somewhat similar to that which formerly existed (or was considered by many zoologists to exist) when a species bearing a trivial name which had been rejected as a secondary homonym was transferred to some other genus and its previously rejected trivial name was restored to use, for in that case also it was impossible to obtain any finality as to the trivial name to be used for the species concerned, that name being liable to change backwards and forwards according to the subjective views held by systematists as to the genus to which the species in question should be referred. It seems to me to be essential that, as in the foregoing case, so also in the present case, the revised scheme should provide a solution which would ensure that a family name is not to be subject to constant change by reason of the subjective considerations discussed above. There are, in my view, only two main ways by which the revised scheme could ensure that this particular type of instability in nomenclature shall not arise : (1) The scheme might make it clear that a family name is not subject to change when the nominal genus upon which it is based is subjectively identified with another nominal genus having an older available name ; (2) On the other hand the scheme might provide that, where the nominal genus upon which a family has been established is subjectively identified with another nominal genus having an older available name, the question whether the family name is to be changed is to be referred to the International Commission on Zoological Nomenclature for decision ; if this second alternative were to be adopted it would, I think, be well to impose upon the Commission an obligation to give public notice of receipt of any such application in the same way that it is proposed that it should be required to give notice of the receipt of an application for the emendation of a scientific name (see pp. 29 and 37 in the present volume) and also to require the Commission, when reaching decisions on such cases, to be guided by the criteria suggested to be adopted when it reaches decisions on questions relating to the emendation of names. My own view is that the best course would be to combine the foregoing courses, by adopting a provision in the terms suggested in (1) above, but to make this subject to the proviso that, where specialists in the group concerned desire that in such a case the name of the family concerned should be changed, it shall be open to them to make application to the Commission accordingly. This suggestion has the merit that it would furnish in a convenient manner a provision which was equally appropriate to cases of this kind arising after the introduction of the revised scheme and to cases which had arisen prior to that date.

16. Name to be adopted for a family when two or more nominal families are united on taxonomic grounds : We have next to consider what name should be properly applicable to a given taxonomic family when two or more of its included genera are already the type genera of nominal families.

It is not clear at present what name should be given to a family when two or more previously established nominal families are united with one another in this way. Is it to be the older of the families concerned, each family for this purpose being identified by the type species of its type genus? Or is it to be the family based upon the oldest of the generic names which are the names of the type genera of any of the families concerned? The second course has in the past found certain adherents on the ground that in the present obscure state of the provisions in the *Règles* it appears to be the method most consistent with the principle of priority as laid down for generic names in Article 25. Fortunately, it is not necessary to examine the validity of this particular argument, since, in view of the decision by the Paris Congress that the whole corpus of the provisions relating to family names is to be the subject of a revised scheme, we are not bound to adopt provisions identical with those in the *Règles*, even where it can be shown—which is not the case in the present instance—that a given provision is explicitly or implicitly included in the present Articles 4 and 5. On the contrary, the purpose of the revised scheme should be to provide rules which on the one hand will be simple and clear and on the other hand will produce the most satisfactory results. Judged from this standpoint there is nothing to be said in favour of a rule which would provide that, where two or more family names are in competition with one another, preference should be given to whichever is based upon the nominal genus having the oldest available name. For it must always be an entire matter of chance whether either the oldest or the most widely used of any series of competing family names is based upon the oldest of the names of any of the genera that are the names are based upon the oldest of the names of any of the genera that are the type genera of the families concerned. Such a system would therefore be capable of producing the most undesirable results involving the most objectionable name-changing and consequent confusion, for it might often lead to the family concerned being known by a name which had hardly ever been used at all, solely because that family name was based upon a genus having an older name than any of the other genera involved. Moreover, such a system could never secure stability, for, so long as a family included any genus with an older name than that of the type genus of the family, it would be open to anyone to erect a new family on the basis of one of the genera having an older name and thereby to render necessary a further change in the name of the family. For these reasons it will, I think, be generally agreed that it would be a serious mistake to include in the revised scheme a provision that, where family names are in competition with one another, preference is to be given to whichever family name has, as its type genus, the oldest name of any of the names of the type genera concerned.

17. Since, as has been explained in the preceding paragraph, the whole question of the regulation of family names is now open, it will be convenient to pause briefly to examine the merits of another system which has in the past been advocated for determining the name to be given to any family. This is the system under which the name of any family would be based upon—that is, have as its type genus—whichever of the included genera happened to have the oldest available name. For the reasons explained in paragraph 11, this method of determining the name of a family has nothing whatever to be said in its favour; for (1) its adoption would lead at this date to wholesale changes in

currently accepted family names ; (2) it would, moreover, never be capable of providing stability for the name of the family concerned, for there would always be the risk that some author might later introduce into the family some long-overlooked nominal genus having an older name than that of any of the genera till then recognised as belonging to the family in question, thereby giving rise automatically to a change in the name of the family in question, however well-known or even famous that name might be.

18. Having rejected as calculated to produce the most injurious results and to lead to the most objectionable name-changing and instability, two possible methods of determining the relative status of competing family names, we have to turn to consider what would be the position, if it were to be decided that such names were to be determined by reference to the relative dates on which the various type species concerned severally became the type species of the type genera of the families in question. The foregoing description of this possible solution is chosen deliberately in preference to a formula under which the test would be the relative dates of publication of the family names concerned, in order to ensure that the concept of a given family should retain its original priority, even if for nomenclatorial reasons the actual family name had at some time be changed, the family retaining its identity however by keeping unchanged the type species of its type genus. In other words, the formula suggested above is designed to secure that, to revert to the example cited in paragraph 14 above, the concept of the family established by Swainson in 1827 under the incorrect name ERYCINIDAE should rank for priority from the date of Swainson's paper, notwithstanding the fact that later it was found necessary on nomenclatorial grounds to change the name of the family from ERYCINIDAE to RIODINIDAE. In the case of all family names published after the introduction of the revised scheme, such a system would, I believe, work satisfactorily in all except the one special case discussed in paragraph 22 below ; I believe that the same is true also as regards family names published since, say, the seventies or eighties of the last century. It would, however, be bound to lead to difficulties if it were to be applied to family names right back to the time when such names were first published. The difficulty which I have in mind is that discussed in paragraph 12 of the present paper, namely the difficulty of determining in the literature of the early decades of the XIXth century whether terms used by authors for suprageneric units are to be accepted as constituting family names. This particular difficulty would disappear if the solution suggested in the foregoing paragraph were to be accepted, and it would thus become easy to determine which of any number of competing family names should be accepted in preference to the other, by adopting for this purpose a rule that such names take precedence as between one another as from the date on which the type species of the type genera concerned were elevated to that position.

19. An alternative to the foregoing method would be a system under which the question of which of two or more competing family names should be accepted in preference to the others would be left to be determined by the first reviser. This course would, subject to certain safeguards, be perfectly practicable but it has several disadvantages : First, it represents an unnecessary departure from the principle of priority ; second, as experience has shown in other connections,

the first reviser rule cannot be relied upon to give quick or, in all cases, certain results. This method is slow, because its adoption involves the closest possible scrutiny of the entire early literature relating to the names concerned ; second, it is incapable of producing absolutely certain results, owing to the risk that must always exist that the action accepted as being that by a first reviser may not in fact be the first such action and that there may be hidden away in the older literature some different action taken by an earlier reviser. Moreover, if it were to be decided to accept the first reviser principle in this case, it would certainly be necessary to define closely the nature of the action required in order to qualify the action taken by a given author to rank as action by a first reviser. Mere use of one of the family names in preference to another would not be sufficient for this purpose and it would be necessary to insert in the *Règles* a provision making it obligatory for an author to make it clear in some way that he is aware that two or more of the included genera had previously been selected as the type genera of families and that, by the name which he is using for the family, he is selecting one of the available family names for use in preference to the other or the others. It is particularly hoped that specialists reading this paper will make a point of informing the Commission which of the two methods discussed above for determining which of two or more competing family names should be accepted in preference to the others (whether by priority, as described in paragraph 18 above or, by the mechanism of the first reviser, as described in the present paragraph) is, in their opinion, to be preferred.

20. Need for securing that the genus selected as the type genus of a family should, so far as possible, be a common and representative genus : It sometimes happens that a new family is established upon the basis of a genus having as its type species either an existing species or a newly-described species which is either very rare or at least for a long time remains very rare in collections. Families so established are open to considerable objection owing to the difficulty encountered by later revisers in obtaining material for critical study. To ensure that, so far as possible, families are not established in this way the Thirteenth International Congress of Zoology decided to incorporate into the *Règles* as a *Recommandation* a provision originally suggested by the Commission in its *Opinion* 141 urging authors when establishing families to select as the type species of any such family " a well-known and common genus and one which occupies a central position in the family so established " (1950, *Bull. zool. Nomencl.* **4** : 139). Every taxonomist recognises the need for the adoption of the foregoing principles in the selection of the type genus of a family and there will be general agreement that the revised scheme should make provision for the inclusion of the foregoing *Recommandation* in the *Règles*. In certain cases there is no possibility of stability in nomenclature at the family name level being secured, unless special provision is adopted for this purpose, for it happens at times that there are two nominal families, the type genera of which are regarded by some authorities as belonging to different families and by others as being confamilial and the name objectively applicable to a large well-known family is junior to the name objectively applicable to a family based upon the second of the two type genera concerned, which may be some aberrant offshoot represented only by a few little-known genera and

species. In such a case, the well-known family would need to lose its accustomed and well-understood name and take on itself the name objectively applicable only to the aberrant offshoot group whenever specialists took the taxonomic view that the genera which were the respective type genera of the two nominal families concerned should be treated as belonging to a single family. It seems to me that there should be some machinery for ensuring that in such a case differences in taxonomic opinion did not have the result of rendering unavailable a well-known family name, the proper course, as it seems to me, being in such a case that it should be the lesser known and not the better known of the two family names which should be liable to disappear according to the varying view taken by specialists as to the taxonomic affinities of the type genera concerned. I suggest therefore that, in order to secure the above end, there should be inserted in the revised scheme a provision that, where specialists represent to the Commission that differences of opinion as to the taxonomic status of the families represented by any two nominal families is liable to lead to the sinking, as a subjective synonym, of a well-known family name in favour of a little-known such name, it shall be open to the Commission to direct which of the family names concerned is in such circumstances to take precedence over the other. It is further suggested that the provisions in regard to the giving by the Commission of public notice of the receipt of applications recommended in paragraph 13 and elsewhere in the present paper should be made binding also in the present class of case.

21. Question whether in all circumstances the name of a family should be based upon the name of its type genus : It will be necessary to consider whether in all circumstances the name of a family must be based upon the name of its type genus. This is essentially a question of the degree to which it is desirable that in exceptional circumstances special measures should be taken to maintain stability in family names. There are two sets of circumstances in which this problem might arise : (1) where, in defiance of the existing Article 4, a family name in current use is not based upon the name of an included genus (i.e. is not based upon the stem of the name of its type genus) ; (2) where it is necessary on nomenclatorial grounds to change the name of the type genus of a family but where the family name based upon the (objectively or subjectively) invalid name for the type genus is so much more widely used than the name of its type genus (on the name of which it is based) that, although it may be bearable to change the name of the type genus, there would be very strong objection to the change of the family name concerned. These problems are discussed separately below.

22. Situation arising when a family name is not based upon the name of a genus included in the family : I do not myself know of any case where a family name is based upon a word which is not also the name of a genus included in the family, but that there are such cases was brought to the attention of the Commission by my predecessor, the late Dr. C. W. Stiles, in the " Discussion " on the individual case of the name of the family containing the nominal genus *Urothoe* Dana, 1852 published in *Opinion* 133 (1936, *Smithson. misc. Coll.* **73** (No. 8) : 42), and it was for this reason that under the decisions

taken by the Commission at Lisbon in 1935 (1943, *Bull. zool. Nomencl.* **1** : 35) a saving provision in favour of family names of the foregoing type was entered in *Opinion* 141 (1943, *Ops. Decls. int. Comm. zool. Nomencl.* **2** : 57) in the following terms : " Note :—There are a few well-established family names proposed by early authors where the foregoing principle, i.e. the principle that the name of a family must be based upon the name of its type genus has not been observed. Such names should be treated as exceptions. Any case of doubt should be referred to the Commission." This matter was further considered in Paris in 1948 when the Commission recommended, and the Congress agreed, that a *Recommandation* in the following terms should be added to the portion of the *Règles* relating to family names : " Where a well-established family name has not been formed in accordance with (iii) above [i.e. not in accordance with the principle indicated above] but where it would be undesirable to change existing practice, authors should, before making any such change, refer the question to the International Commission on Zoological Nomenclature for such action as it may think proper " (1950, *Bull. zool. Nomencl.* **4** : 139). It will be seen from the foregoing that the Commission and the Congress have recognised, in principle, the need for special action in relation to names of families not based upon the names of included genera in cases where the families in question are well known and well established. Before considering how this question might best be dealt with in the revised scheme, it will be convenient if we pause to consider the position as regards the second of the two classes of case specified in paragraph 21 above.

23. Situation arising when a well-known family name becomes invalid through the name of its type genus being found to be invalid : It has been suggested that, where the name of a genus which is the type genus of a family is found to be invalid, no serious confusion (and, within the field of systematics strictly defined, no confusion) would arise if the name of the genus were to be changed as required by the Law of Priority, but that serious inconvenience and confusion—the latter especially among workers in the general fields of biological investigation—would arise if the family name itself were to be changed by being based upon the stem not of the invalid name for its type genus (as hitherto) but upon the valid name for that genus now to be brought into use. Those who have advocated this view have put forward the suggestion that in such a case the name of the type genus should be changed, as required by the Law of Priority, but that the Commission should direct that the well-known family name based upon the invalid name of the type species should continue to be used. Suggestions of this kind have been put forward in regard to a number of family names in the Order Diptera (Class Insecta) which are extremely well-known but which under the normal operation of the *Règles* would need to be changed if the names published for the type genera concerned by Meigen in 1800 are to be used. An example of a suggestion of this sort that has recently been laid before the Commission is provided by the generic names *Chironomus* Meigen, 1803, and *Tendipes* Meigen, 1800, where it has been proposed that the generic name *Tendipes* Meigen should replace its objective junior synonym *Chironomus* Meigen but that in spite of this the extremely well-known family name CHIRONOMIDAE should be retained in preference to the name TENDIPEDIDAE, by which strictly it should be replaced (1951, *Bull. zool. Nomencl.* **2** : 152). It is

not proposed here to offer any comment on the actual proposal cited above ; it is quoted solely to show that it has been suggested from responsible quarters that action on the foregoing lines would in certain circumstances be desirable.

24. Provision suggested for inclusion in the revised scheme in relation to family names not based upon the stem of the objectively valid name of its type genus : In the preceding paragraphs we have considered two classes of cases which, though different from one another, nevertheless raise only a single nomenclatorial problem. In the first of these cases the problem was concerned with family names not based upon the stem of the name of an included genus, in the second, with family names not based upon the stem of the oldest available name of an included genus (the type genus of the family). In each of these cases the only nomenclatorial issue is whether circumstances are ever so exceptional that it is desirable to waive the requirement that a family name must be based upon the oldest objectively available name for its type genus. In the first of these cases we have seen that the Commission and the Congress have hitherto taken the view that there may be cases where such exceptions should be made ; in the second, neither the Commission nor the Congress have as yet ever expressed an opinion but the view in favour of the making of exceptions in cases of a very special character has been strongly urged by highly responsible zoologists. In these circumstances it seems to me to be likely that it will be the general wish of zoologists that the revised scheme should include a provision which would render such exceptions possible. I believe however that it will also be found that the general feeling of zoologists is that such exceptions should be made only on very rare occasions and where the need for maintaining stability for the name of the family concerned is exceptionally strong, for the positive gain of being able at once to see from the name of a family what is its type genus is extremely great and one which, I believe, zoologists would not wish to sacrifice unless there were very strong counter-advantages to be obtained by so doing. In the circumstances, I suggest therefore that the revised scheme should include two provisions by way of safeguard : first, that exceptions should be granted by the Commission only when it is satisfied (*a*) that the family name is so well-established in the literature that in the interests of nomenclatorial stability it is essential that that name should be preserved, and (*b*) that this end cannot be more readily achieved by validating the generic name on which the family name in question is based ; second, that the power to grant exceptions should be limited to family names established prior to (say) 1850. I would suggest also that the requirements suggested earlier in similar cases should apply also in this matter, that is, that exceptions should be granted only on the application of specialists and that the Commission should be required to give public notice of such action before taking decisions on applications submitted.

25. Authorship of family names: If, as has been suggested, family names are in future to take precedence as between one another in accordance with a system of priority, it will be desirable that the *Règles* should provide that family names, like other names, be attributed to the author by whom they were first published and should bear the date on which they were published, save in the special case (discussed in paragraph 14 above) of a substitute family

name (i.e. a family name which has been changed owing to the discovery that the oldest available name for the type genus is not that used in the formation of the family name in question, at the time when that name was first published). For this latter class of name, I have suggested (in the paragraph noted above) that the substitute name should rank from priority as from the date of the publication of the original name. Similarly, it would, I think, be reasonable to provide that a substitute family name should be attributed to the author of the original name. Such an arrangement would raise a question as to the form of citation to be used in referring to such family names. This question is discussed in the next paragraph.

26. Citation of family names: It is suggested that the rules to be adopted for the citation of family names should follow those already prescribed for generic names, that is, that the name of the author of a family name should be cited immediately after the name of that family, without interposition of a comma or other mark of punctuation, and that, where it is desired to cite the date of a family name, that date should be added immediately after the name of the author of the family name, being separated therefrom by a comma. We have now to consider what form of citation it is desirable should be adopted for family names in those cases where it is necessary to change the name of a family consequent upon the change of the name of its type genus. As regards this, I suggest that in general it would be sufficient to insert the original name of the family in brackets—parentheses—after the family name and before the name of the author of the original author, thus "RIODINIDAE (ERYCINIDAE) Swainson, 1827." Where however it was desired to employ a method of citation which would give the whole history of the name, the prescribed method of citation might, it is suggested, be : "RIODINIDAE (ERYCINIDAE emend. Grote, 1895) Swainson, 1827."

27. Homonymy in family names: The present provisions of Article 4 give rise to identical names, whenever two genera, each the type genus of a family, have as their generic names words possessing the same "stem." Various cases of this kind have been brought to the notice of the Commission ; a good example, to which attention was drawn by Professor H. Boschma (Leiden) is provided by the situation of homonymy which has arisen in connection with the family name CYPRINIDAE ; that family name has been formed for the family of fishes, of which the genus *Cyprinus* Linnaeus, 1758, is the type genus and for the family of molluscs of which the genus *Cyprina* Lamarck, 1818, is the type genus, both the generic names in question consisting of words having the same stem. Homonymy of this kind may not be inconvenient to specialists when it occurs in families belonging (as in the foregoing case) to widely separated parts of the Animal Kingdom, but that it should be permitted to occur is as much a reproach to zoological nomenclature as would be the co-existence of two genera, each having the same name. Preliminary consideration was given to this matter both by the Commission and the Congress at Paris in 1948, when attention was drawn to the fact that in the one case of this kind which had been considered in detail by the Commission—the case of the family names to be formed from the generic names *Merops* Linnaeus, 1758 (Class Aves) and *Merope* Newman, 1838 (Class Insecta)—a satisfactory solution had been

devised, the Commission ruling in *Opinion* 140 (1943, *Ops. Decls. int. Comm. zool. Nomencl.* **2** : 47-53) that homonymy should be avoided by the use of the name MEROPIDAE for the family of birds and of the name MEROPEIDAE for the family of insects. It was felt that the best course would be to provide means for satisfactory solutions of this kind which could not be obtained by any set rule which applied automatically to every case, irrespective of the nature of the generic names involved. It was accordingly agreed that, as a temporary measure and without prejudice to the comprehensive inquiry to be undertaken in consultation with specialists before the next Congress, there should be inserted in the *Règles* " a provision that, where the application of Article 4 led to the establishment of two or more families having the same name, the case is to be referred to the International Commission on Zoological Nomenclature, whose duty it shall be to determine the name to be applied to each of the families concerned " (1950, *Bull. zool. Nomencl.* **4** : 244). Since the foregoing decision was taken expressly as being without prejudice to the present investigation, there would be no need to include a provision on these lines in the permanent scheme which is to replace the existing Articles 4 and 5, if a more satisfactory way of dealing with the problem of homonymy in family names could be devised. But, as explained in connection with the names *Merops* Linnaeus and *Merope* Newman, it cannot reasonably be expected that generally acceptable solutions could be secured in cases of this kind, except by means of some mechanism of an extremely flexible type which made it possible to pay due regard to the special features presented by each case. It is precisely this flexibility which is provided by the procedure agreed upon in Paris and which is not obtainable by any other means.

28. Provisions proposed to be inserted in the " Règles " in relation to homonymy in family names : In the light of the considerations outlined in the preceding paragraph, I suggest that the revised scheme should provide that any family name which consists of the same word as a previously published family name is to be rejected as a junior homonym of that family name, but that, where specialists are of the opinion that the rejection of such a name would give rise to serious confusion, it shall be open to them to submit an application to the Commission that that family name be retained, and it shall then become the duty of the Commission to determine the names by which the two families concerned shall be known, subject to the proviso that, in reaching a decision in such a case, the Commission shall not direct that the same name shall be used for both the families concerned. I further suggest that, as in other somewhat similar provisions, the revised scheme should make it an obligation for the Commission to give public notice of any application received under the foregoing provision in the same way that it is now required to give public notice in relation to applications involving the possible use of the plenary powers.

29. Suggested insertion in the " Règles " of a provision for the purpose of determining whether any two family names consisting of very similar words are to be treated as homonyms of one another : One of the most difficult problems in relation to homonymy at the generic name level is how to determine whether any two very similar names are to

be treated as constituting separate names or alternatively whether the later published should be rejected as a homonym of the other, the differences in spelling involved being treated as too small to permit of the co-existence of the two names as valid names. It cannot be claimed that an entirely satisfactory solution has as yet been found for this difficult problem, though some progress was made by the Paris Congress when it laid down the rule that, except in the very limited classes of case specified in the decision then taken, any generic name which differed in spelling from any other generic name, no matter how small the difference in spelling involved, is to be treated as constituting a separate name and therefore that the later published of any two such names is not to be rejected as a junior homonym of the earlier published name (1950, *Bull. zool. Nomencl.* **4**: 130-131, 161-162, 243). Since a family name is no more than a replica of the name of the type genus of the family concerned, to which a special termination has been added, it follows logically that, whatever rules may be adopted for determining whether or not any two very similar generic names are to be treated as homonyms of one another should apply also to the family names based upon those generic names. I recommend, therefore, that such a provision should be inserted in the revised scheme for regulating family names.

30. Rules for regulating the naming of subfamilies: The present Articles 4 and 5 purport to regulate the naming of subfamilies equally with the naming of families, that is, the provisions in those Articles are based upon the principle that, save as regards the terminations to be used for family names and subfamily names respectively, whatever rules are applied to the naming of units belonging to one of these taxonomic categories shall apply also to the naming of units belonging to the other category. This principle is in accordance with the current practice and is, I feel confident also, the general wish of zoologists. I accordingly recommend that the revised scheme should contain an express provision laying it down that, save in respect of those matters where express provision to the contrary is made in the *Règles*, the naming of subfamilies shall be subject to the same provisions as those governing the naming of families. The exceptions referred to above which it is suggested should be dealt with expressly in the *Règles* are two in number. These are discussed in the immediately following paragraphs.

31. Termination to be used for subfamily names: Article 4, as it stands today, provides that, for the purpose of forming the names of families and subfamilies respectively, there shall be added to the stem of the name of the type genus the termination "-IDAE" in the case of family names and the termination "-INAE" in the case of subfamily names. So far as I am aware, the foregoing provision is universally accepted by zoologists and, having regard to the need for maintaining stability in zoological nomenclature, I should without question have recommended that the revised scheme should contain the same provision in relation to the termination to be used for denoting subfamily names as that laid down in Article 4, namely that the termination "-INAE" should be used for this purpose. At this point it is necessary, however, to draw attention to the proposal submitted by Professor R. Jeannel that the termination to be used for denoting subfamily names should be

changed from " -INAE " to " -ITAE " (Jeannel, 1950, *Bull. zool. Nomencl.* **3**: 164-165), a proposal which the Commission at Paris specifically agreed should be considered in the course of the present investigation (1950, *Bull. zool. Nomencl.* **4**: 273). Particular attention is therefore drawn to Professor Jeannel's paper, from which it will be seen that his objection to the termination " -INAE " is its feminine form, whereas the termination " -INI " commonly used to denote the names of tribes is in masculine form. This is without doubt an illogicality and one which is particularly noticeable to (and, therefore, objectionable to) French zoologists and to zoologists of other countries, the languages of which are inflected. For my part, while I fully appreciate the force of the objections advanced by Professor Jeannel, I feel that the termination " -INAE " has now become so deeply entrenched in the literature and is so much part of the every-day language of zoologists that the balance of advantage is very definitely in favour of its retention in the revised scheme.

32. Name to be used for the nominotypical subfamily of a polytypic family: The *Règles* provide (Article 9) that the name of the nominotypical subgenus of a polytypic genus shall consist of the same word as the generic name itself and at Paris a similar provision was inserted in the *Règles* in regard to the name to be used for the nominotypical subspecies of a polytypic species (1950, *Bull. zool. Nomencl.* **4**: 191). But just as up to the last Congress the *Règles* contained no provision relating to the name to be used for a nominotypical subspecies, so also the *Règles* at present contain no provision as to the name to be used for the nominotypical subfamily of a family. This omission, which was no doubt due to inadvertence on the part of the Berlin draftsmen, is clearly one which should be remedied in the revised scheme now under consideration. The general practice of zoologists has been to proceed as though the *Règles* provided that the name of the nominotypical subfamily should, apart from the difference in termination, be the same as the name of the family itself. I recommend that this practice should be given legal force by the insertion in the revised scheme of a provision that, where a family is divided into two or more subfamilies, the subfamily containing the type genus of the family shall have the same genus as its type genus and shall be known as the nominotypical subfamily of the family in question and, subject to substitution of the termination prescribed for subfamilies for the termination prescribed for families, the nominotypical sub-family of a family shall bear the same name as the family concerned.

33. Relationship to one another of family names and subfamily names: One of the most serious defects of the existing provisions relating to family and subfamily names is the lack of a provision defining the relationship to one another of names published for taxonomic units belonging to the categories family and subfamily respectively. For the two categories of lower rank the *Règles* do contain such provisions, Article 6 prescribing that generic names and subgeneric names are to be treated as being co-ordinate with one another and Article 11 laying down a similar principle in regard to the relationship to one another of specific trivial names and subspecific trivial names. It is clearly essential that the revised scheme should deal expressly with the corresponding problem in relation to family and subfamily names. In general, the practice seems to be to treat names belonging to these two

categories as being co-ordinate with one another, and this is certainly the most logical course to take. I recommend that this practice should be given legal force by means of an express provision in the revised scheme. If this proposal is adopted, a family will be deemed to have been established not only (1) when there is published a family name based upon the stem of the name of a genus which thereby becomes the type genus and having the termination " -IDAE " prescribed for family names, but also (2) when at some earlier date the same genus is made the type genus of a subfamily for which there is published a subfamily name based upon the stem of the name of the type genus and bearing the termination prescribed for subfamilies. Similarly a subfamily will be deemed to have been established with a given genus as type genus as from the date on which a family was duly established with that genus as type genus, if a later reviser places the type genus in some family having an older available name, but desires to place the genus in question in a separate subfamily other than the nominotypical subfamily.

(b) Problem of the names to be given to taxonomic units (other than subfamilies) belonging to categories below family rank but above generic rank

34. The scope of the problem: So far, we have considered the question of the regulation of the names to be given to taxonomic units belonging to one category only below the family level but above the genus level, namely the subfamily. But there are other categories intermediate in rank between families and genera, to taxonomic units belonging to which names are applied. At present such names possess no standing of any kind in zoological nomenclature. This is clearly illogical, for the *Règles* ought certainly to contain provisions regulating the names to be given to taxonomic units belonging to all categories downwards from the highest category recognised in the *Règles*, at present the category family. For this reason alone any scheme for the clarification, amendment and extension of the provisions relating to family names would be incomplete if it contained no provisions relating to the categories here in question. One of these categories is the " tribe." which is very widely recognised by zoologists, and it is clearly of great importance that the revised scheme should contain provisions which will give legal force to the general practice which has grown up in this matter. As already explained, I consider that it would be illogical not at the same time to make provision for the naming of taxonomic units belonging to the other subcategories concerned, even though some of them are not at present widely recognised. The whole tendency of modern classification is to increase the number of intermediate categories, in order thereby the more clearly to bring out what are believed to be phylogenetic relationships. It may be expected therefore that, as time goes on, the subcategories with which we are here concerned will acquire an increasing acceptance and, in consequence, from a nomenclatorial point of view, an enhanced importance. There is a considerable diversity in the terminology used to denote some of these concepts and, in dealing with this question, it will be necessary therefore to avoid the use of phraseology which, if interpreted ritualistically, would bring some but not

all of the names published for units belonging to these subcategories within the scope of the provisions to be laid down. The aim must be to ensure that, whatever term an author may use when publishing a name for a unit belonging to any of these subcategories, the rules shall be so worded as to apply in an appropriate manner to the name so published. Broadly speaking, there are, it seems to me, three categories which it will be necessary to consider: (1) the category or group of categories which are distinguished, by whatever term, as being below full subfamily rank but above the rank of a tribe; (2) the category or group of categories which are distinguished, by whatever term, as being so much below the rank of a subfamily as to belong to the rank known as a tribe; (3) the category which is distinguished, by whatever term, as being so much below the rank of a tribe as to belong to the rank of supergenus. These categories or groups of category are dealt with from the nomenclatorial point of view in the following paragraphs.

35. Subcategories below that of a subfamily but above that of a tribe: It is suggested that the revised scheme should provide that, where it is desired to give a name to a taxonomic unit belonging to a category lower than that of a subfamily but higher than that of a tribe in the broad sense of that term (i.e., a category above that of supertribe or equivalent), the name to be given to that taxonomic unit is to be formed in like manner as though that unit belonged to the category subfamily. It should further be provided that names so given are to be subject to the same rules as the names of subfamilies and are to be co-ordinate with such names. A provision on the foregoing lines, being drafted by reference to the concepts to be named rather than by reference to the terms used to denote those concepts should suffice to provide all that is required in connection with the names for taxonomic units belonging to the group of categories concerned.

36. Subcategories centring around the category "tribe": The concept represented by the category tribe is very widely recognised by zoologists, and provision for the naming of taxonomic units belonging to this category must certainly be included in the revised scheme, in view especially of the fact that the special termination "-INI" is habitually used to denote tribes, although in actual fact the *Règles* contain no provisions of any kind relating to the naming of tribes and names so given possess accordingly no status in zoological nomenclature. In order to regularise the position in this matter by bringing the legal position into line with current practice, it is suggested that the revised scheme should provide (1) that the name of a tribe is to be formed by the addition of the termination "-INI" to the stem of the name of the type genus of the tribe concerned, (2) that the names of tribes are to be subject to the same rules as, and are to be co-ordinate with, the names of families and subfamilies. Point (2) would have the effect, *inter alia*, of providing—as it is clearly desirable should be provided—that the nominotypical tribe of a family (i.e., the tribe containing the type genus of the family concerned) is to have as its type genus the same genus as that which is the type genus of the family and its name is to be formed by the addition of the prescribed termination to the stem of the word of which the name of that genus consists. Finally, it will be necessary to provide that the foregoing rules shall apply not

only to names published by authors as the names of tribes, but also to names applied to taxonomic units belonging to categories representing the same concept as that denoted by the word " tribe " in cases where the author publishing the name applied some expression other than the expression " tribe " to the category so named, including cases where the author in question designated that category as being either a " supertribe " (or its equivalent) or as a " subtribe " (or its equivalent). This object could probably best be secured by the insertion in the *Règles* of a comprehensive definition of the expression " tribe name " on the above lines.

37. The category " supergenus " : References occur in the literature to the category " supergenus," but I have been unable to trace any group in which this category is commonly accepted. Nevertheless, it would be both illogical and inconvenient if no provision were to be included in the revised scheme for the naming of units regarded as belonging to this category, since the aim of the revision of Articles 4 and 5 contemplated by the Paris Congress was that that revision should be comprehensive and should contain appropriate provisions relating to the naming of taxonomic units belonging to all recognised categories of the " family " group. In spite of its name, the " supergenus " must, I think, be regarded as belonging to this group of categories, for, so far as I am aware, it has never been suggested that the genus should be divorced from its position as the principal basic category above the species level and as the category which occupies the unique position of providing the first part of the specific name (binominal combination of generic name and trivial name) of every species.

38. Provisions suggested to be included in the scheme in relation to the names of " supergenera " : For the reasons explained above I feel that it would be a mistake to omit from the revised scheme all reference to the naming of units recognised as belonging to the category " supergenus," even though the concept represented by that category appears to have acquired only a very limited degree of acceptance. This does not seem a sufficient reason for making no reference to this category, for like (for example) the allied category " tribe," the category " supergenus " would in no circumstances be more than, as it were, an optional category for use by those specialists who might find the recognition of such a layer between tribes and genera convenient as a method of expressing their views as to the taxonomic affinity of the species that they were dealing with. Thus, the inclusion in the *Règles* of a provision governing the naming of supergenera would be convenient to those who might wish to recognise this category and would cause no inconvenience whatever to those who did not. It is accordingly suggested that the scheme might usefully include a provision prescribing that a name given to a supergenus is to be treated as being co-ordinate with a name given to a tribe or higher category up to and including the category " family." It is suggested, however, that supergeneric names should rank for priority *inter se* by reference to the dates on which they were respectively published as such. This qualification appears to be desirable in order to prevent the displacement of an established supergeneric name (if there were such) by the later downgrading to the supergenus level of an older name previously published as a tribe name. In all other respects supergeneric names should be subject to

the same rules as those adopted for the names of higher sub-divisions of the category " family." In order to be complete, the scheme should certainly provide for the use of a uniform termination for the names of supergenera, since in the absence of such a provision discordant practices are bound to arise (just as they have done elsewhere in the *Règles*, when some essential provision was omitted). I do not feel, however, that I am in a position to suggest what termination should be adopted for this purpose. On this subject therefore advice from specialists who find it convenient to recognise the category " super genus " will be particularly welcome.

(c) Problem of the names to be given to taxonomic units belonging to the category " superfamily "

39. Proposed introduction into the " Règles " of rules relating to the naming of superfamilies : At first glance it might be thought more appropriate to treat superfamily names as representing the lowest unit in the group of categories comprised in the " ordinal " group, rather than as a kind of upward extension of the group of categories belonging to the " family " group. On closer inspection, however, it becomes apparent that, in fact, superfamily names are much more closely related to family names than they are to names of the ordinal group, being based invariably upon the stem of the name of a genus which is already the type genus of one of the families included in the superfamily concerned. It is accordingly suggested that the revised scheme relating to the naming of families should include also provisions relating to the naming of superfamilies.

40. Termination suggested to be adopted for superfamily names : As in the case of other categories belonging to the " family " group, it would be necessary, if the concept of " superfamily " is to be recognised, for the *Règles* to contain a provision specifying the termination to be used in forming the names of taxonomic units belonging to this category. In the present instance this should not be a matter of difficulty, the termination " -OIDEA " being already widely used for this purpose, no other termination, so far as I am aware, having been employed. I accordingly suggest the revised scheme should contain a provision prescribing that the name of a superfamily is to be formed by adding the foregoing termination to the stem of the name of the type genus of one of the included families. It would follow from this provision that the scheme should provide also that the type family of a superfamily is that family which shares with the superfamily the characteristic of its name being based upon the same generic name.

41. Relationship of superfamily names to family names : Just as it is proposed that names published as subfamily names and tribe names should be co-ordinate with the names of families, so also it is proposed that names published as superfamily names should be co-ordinate with names published as family names. Since up to the present time superfamily names have not been recognised in the *Règles*, authors have been free to select any family

to be—as it were—the type family of a superfamily. No doubt in most cases authors publishing new superfamily names have formed the superfamily name in question on the basis of the name of the longest established of the families placed in the new superfamily, but it is possible that for one reason or another this course has not always been followed. Moreover, even where this course has been adopted by the author of a superfamily name, it does not follow that the family on the name of which the superfamily name is based will always remain the oldest established family comprised in the superfamily so established, for the boundaries to be assigned to a superfamily are essentially a matter for the subjective judgment of systematists and in the nature of the circumstances represents a concept, the content of which must be liable to change in accordance with changing taxonomic ideas. It follows therefore that a rule which required that the name of a superfamily must be based upon the stem of the name of the type genus of the longest established of the included families might give rise to instability in the names of superfamilies. This is something which should clearly be avoided. It is accordingly suggested that the names of superfamilies shall be co-ordinate with the names of families. It is suggested that this latter rule should be qualified by a proviso that superfamily names shall rank for priority, *inter se*, by reference to the dates on which they were severally published as such and not by reference to the relative priority of the names of the families comprised in the superfamily concerned.

42. Other regulations relating to superfamily names: It is suggested that, subject to the qualifications proposed in paragraphs 40 and 41 above, the rules to be applied to names published as superfamily names shall be the same as those for names published as family names.

(d) Proposed establishment of an " Official List of Family Names in Zoology " and of a corresponding " Official Index of Rejected and Invalid Family Names " and the addition to the " Règles " of a Schedule for recording the foregoing " Official List " and " Official Index "

43. Proposed establishment of an " Official List of Family Names in Zoology ": The International Congress of Zoology decided at Paris in 1948 to incorporate in the *Règles* a provision making it obligatory for the Commission to place on the *Official List of Generic Names in Zoology* every generic name, as regards which any decision might thereafter be taken by the Commission, in cases where the generic name concerned was both an available name and also was accepted by specialists as the oldest such name for the genus represented by the nominal genus so named ; at the same time the Congress made it the duty of the Commission to maintain, and to foster the development of, the *Official List* by all means in its power (1950, *Bull. zool. Nomencl.* **4** : 267-269). The same Congress established a corresponding *Official List of Specific Trivial Names in Zoology*, for the maintenance and development of which similar duties were imposed upon the Commission (1950, *ibid.* **4** : 269-271). Among the duties laid upon the Commission in connection with the latter *Official List* was to place on it the trivial name (when the oldest available

such name) of the type species of every genus, the name of which was placed on the *Official List of Generic Names*. The decisions cited above in regard to the treatment to be accorded to names as respects which decisions had been, or were in future to be, taken by the Commission give a clear guide as to the wishes of the Congress on subjects of this sort and create a strong presumption in favour of the establishment, as part of the reform of the provisions now included in Articles 4 and 5 of the *Règles*, of an *Official List of Family Names in Zoology*. Quite apart from this consideration, the establishment of such an *Official List* is clearly very much to be desired, for such a *List* would not only be a great convenience to all workers but would also contribute in a powerful degree to the stabilisation of nomenclature in this important field. Such an *Official List* would indeed be of quite outstanding value and importance, since the fact that the number of accepted families in zoology is so very much smaller than the number of accepted genera should make it possible within a relatively short period of time to secure for an *Official List of Family Names* a high degree of completeness, thus ensuring at the family name level a firm framework on which to build up a stable system of nomenclature in zoology. I therefore strongly recommend that the establishment of an *Official List of Family Names in Zoology* should form a part of the revised scheme for the regulation of family names. The adoption of the foregoing proposal would carry with it also a decision that (as in the case of the existing *Official Lists*) there should be associated with the new *Official List* an *Official Index of Rejected and Invalid Family Names*, in which would be recorded every family name which was either rejected by the International Commission or declared by it to be invalid.

44. Scope of the proposed " Official List " and duties of the Commission in relation to it : It is suggested that the scope of the *Official List of Family Names in Zoology* should be similar to that of the existing *Official Lists* for names of units belonging to lower taxonomic categories, that is, that it should be established for the reception (1) of all family names as regards which the Commission either has already, or at any time in the future may, reach a decision in an *Opinion* where the family so named is accepted by specialists as necessary for taxonomic purposes and where the family name in question is the oldest available name for (and therefore the valid name of) the family in question, (2) of the name of any family similarly recognised as taxonomically required, the type genus of which is already, or at any time may be placed, on the *Official List of Generic Names in Zoology*, and (3) and any other similar family name which, on the application of specialists, the Commission may think it desirable to stabilise in this way. As in the case of the other *Official Lists*, it should be made the duty of the Commission to maintain, and foster the development of, the *Official List of Family Names in Zoology* by every means in its power. Again as in the case of the other *Official Lists*, it would be appropriate to include in the regulations governing the new *Official List* a provision directing the Commission, in cases where there is difference of opinion among specialists as to whether one, or more than one, family should be recognised in any given group, to place both or all of the family names concerned on the *Official List*, with notes attached to the entries relating to the later published family names stating that those names were placed on the *Official List* for use by those specialists who may consider on taxonomic grounds

that more than one family is involved. The regulations would naturally include a provision conferring upon any family name placed on the *Official List* a status similar to that granted to generic names and trivial names placed on the *Official Lists* established respectively for the reception of such names.

45. Consequential addition needed in the regulations prescribing the duties of the Commission in relation to the " Official List of Generic Names in Zoology ": The Congress has made it the duty of the Commission to place on the *Official List of Specific Trivial Names in Zoology* the trivial name (if the oldest such name available) of the type species of any genus, the name of which is placed on the *Official List of Generic Names in Zoology*. On the analogy of this provision, it would be desirable that, concurrently with the establishment of the *Official List of Family Names*, there should be added to the regulations governing the *Official List of Generic Names in Zoology* a provision requiring the Commission to place on that *Official List* the name of any genus which is the type genus of a family, the name of which is placed on the *Official List of Family Names in Zoology*, save in the case of any family name of the class discussed in paragraph 24 above, if such a name be recognised.

46. Taxonomic categories, the names of which should be eligible for admission to the proposed " Official List ": It has been suggested in the present paper that the names of superfamilies, families, subfamilies, tribes, and supergenera should all be co-ordinate with one another. The acceptance of these suggestions would carry with it the corollary that names belonging to any of these categories would be eligible for admission to the proposed new *Official List*. It is necessary at this point to consider the form to be adopted in entering names on the proposed *Official List*; as regards this, it is suggested that, irrespective of the question of the taxonomic view currently held as to which of the foregoing categories is that to which a unit bearing a given name should be referred (this being a matter on which the Commission should avoid expressing an opinion), a name placed on the *Official List* should be entered thereon in whatever form that name was first published as the name of a family, subfamily or tribe, as the case may be, but that in the case of the names of superfamilies and supergenera which it may be decided to place on the *List* the entry so made should be additional to the entry thereon of the name of the family, subfamily or tribe based upon the same generic name and therefore having the same genus as its type species. This condition is essential if the suggestion submitted in paragraph 41 above that superfamily names are to rank for priority *inter se* by reference to the dates on which those names were respectively published as such is to be accepted, for otherwise the *Official List* would fail to indicate the date as from which the superfamily name in question is to rank for purposes of priority in relation to other superfamily names. The qualification suggested above would be necessary also in relation to supergeneric names if the suggestion made in paragraph 38 as to the dates from which such names should rank *inter se* is approved.

47. Title to be given to the proposed " Official List " of the names of families : I suggest that, although it is proposed that the new *Official List*

should be open not only to the names of families but also to the names on the one hand of superfamilies and on the other hand of subfamilies, tribes and supergenera, the only one of these categories which need be expressly mentioned in the title to be given to the *Official List* is that of the family. This procedure would be in line with that adopted in relation to the *Official List of Generic Names in Zoology*, for which the names of subgenera are just as eligible as are the names of genera and in relation also to the *Official List of Specific Trivial Names in Zoology*, for which the trivial names of subspecies are just as eligible as are those of species, although, by an express decision taken in Paris (1950, *Bull. zool. Nomencl.* **4** : 627-628) reference to specific trivial names is alone made in the title of that *Official List*. This decision was taken for the purpose of avoiding an unduly cumbrous title for the *Official List* and was clearly in accordance with general convenience. The same considerations apply in the case of the new *Official List* now proposed and it is accordingly suggested that the title to be adopted for that *Official List* should be the *Official List of Family Names in Zoology*. Similarly, it is suggested that the *Official Index*, the establishment of which has been suggested in paragraph 43 above, should be given the title *Official Index of Rejected and Invalid Family Names in Zoology*.

48. Status proposed to be given to the " Official List of Family Names in Zoology ": Under decisions taken by the Thirteenth International Congress of Zoology at Paris in 1948 (1950, *Bull. zool. Nomencl.* **4** : 333-334) each of the existing *Official Lists* will in future be incorporated in one of the Schedules attached to the *Règles*, in order thereby to mark the official status of these *Lists*. It is proposed that a similar arrangement should be followed in the case of the *Official List of Family Names in Zoology* and of the corresponding *Official Index of Rejected and Invalid Family Names*, the duties of the Commission in relation to which will need also to be specified in the *Règles* in the Article dealing with the duties of the Commission.

(e) Questions on which the advice of specialists is now sought

49. In accordance with the decision taken by the Thirteenth International Congress of Zoology, Paris, 1948, the Fourteenth International Congress of Zoology, when it meets in Copenhagen in 1953, will be presented with proposals for the insertion in the *Règles* of comprehensive provisions relating to the naming of families and cognate groups in replacement of the entirely inadequate provisions in the existing Articles 4 and 5. It is earnestly desired that the proposals so submitted should be as broadly based as possible, that is, that they should be such as to secure the widest possible measure of support among zoologists and palaeonotologists. It is for this reason that I have prepared the present note in which I have set out the various problems which will need to be settled and have enumerated the suggestions which have been put forward in regard to each. The questions on which the advice of specialists is now sought are :—(1) What are your views on the various problems which arise

in connection with the naming of families and kindred categories ? In particular are you in favour of the suggestions for dealing with those problems set out in the present paper ? If not, what are the alternative courses which you would favour ? (2) Are there, in your opinion, any aspects of the family-name group of problems that are not referred to in the present paper but which ought, you consider, to be dealt with in any scheme for the clarification, amendment and extension of Articles 4 and 5 of the *Règles* ? If so, what are the aspects in question and what action do you consider it desirable should be taken in regard to them ?

50. Specialists reading the present paper who desire to place statements of their views before the Commission are asked to send those statements as soon as possible to myself, as Secretary to the Commission (address : 28 Park Village East, Regent's Park, London, N.W.1, England). Further, specialists are asked, when preparing such statements, to conform with the request as to the method of submission indicated at the end of paragraph 2 of the present paper.

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Proposed clarification, amendment and expansion of the provisions in the *Règles* relating to the formation of the names of families and subordinate categories of suprageneric rank : An appeal to zoologists for advice .. 61

IMPORTANT NOTICE

The paper published in the present Part has been prepared for the express purpose of drawing attention to certain important questions relating to the clarification, amendment and expansion of the *Regles Internationales* which will be considered by the Fourteenth International Congress of Zoology at its meeting in Copenhagen in 1953.

Interested specialists are particularly invited to furnish comments and advice on the foregoing questions, so that account may be taken of their views in the formulation of recommendations to the Copenhagen Congress.

Specialists responding to the foregoing appeal will render a double service to the International Commission on Zoological Nomenclature, if, when they furnish statements setting out their views, they will be so good as to send those statements, typewritten on one side of the page only, double-spaced and with wide margins. All such statements should be furnished in duplicate.

Unnecessary work and consequent delay are caused in the office of the International Commission, if statements on two or more subjects are sent on a single sheet of paper, owing to the copying which this involves. Correspondents are threfore particularly requested, when furnishing notes to the Commission on more than one subject, to use a separate sheet of paper for the note on each subject.

All communications should be clearly marked with the Commission's Reference Number and should be addressed to FRANCIS HEMMING, C.M.G., C.B.E., Secretary to the International Commission on Zoological Nomenclature, 28 Park Village East, Regent's Park, London, N.W.1, England.

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